



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

9. "Experimental Researches in Electricity.—Fifth Series." By Michael Faraday, Esq., D.C.L., F.R.S., Fullerian Professor of Chemistry in the Royal Institution of Great Britain.

The object of the author in this paper is to investigate the nature of electro-chemical decomposition. From the consideration of the circumstances of difference that mark the electricities obtained from the common electrical machine, and from the voltaic battery, and of which he had already established the theory in preceding papers, he was led to expect that the employment of the former in effecting chemical decomposition would exhibit some new conditions of that action, evolve new series of the internal arrangements and changes of the substance under decomposition, and perhaps give efficient powers over matter as yet undecomposed. For the purpose of greater distinctness, he divides the inquiry into three heads. In the first, he treats of some new conditions of electro-chemical decomposition, and shows that that effect does not depend upon the simultaneous action of two metallic plates, since a single pole might be used to effect decomposition; in which case one or other of the elements liberated passes to that pole, and the other element to the other extremity of the apparatus, the air itself acting as a pole. In the second, he considers the influence of water in electro-chemical decomposition; and he combats the opinion that the presence of that fluid is essential to the process is erroneous, and shows that water is merely one of a very numerous class of bodies, by means of which the electric influence is conducted and decomposition effected. In the third, he enters at large into the investigation of the theory of electro-chemical decomposition; and after discussing at some length the various theories of different writers on this curious subject, he is led to consider the effect in question as produced by an internal corpuscular action, exerted according to the direction of the electrical current, and as being the result of a force either superadded or giving direction to the ordinary chemical affinity of the bodies present; that is, modifying the affinities in the particles through which the current is passing, so that they act with greater force in one direction than in another, and consequently cause them to travel, by a series of successive decompositions and recompositions, in opposite directions, so as to be finally disengaged at the boundaries of the decomposing body. Various experiments are detailed in corroboration of these views, which appear to explain, in a satisfactory manner, all the prominent features of electro-chemical decomposition.

10. "The Anatomy and Physiology of the Liver." By Francis Kiernan, Esq., M.R.C.S. Communicated by J. H. Green, Esq., F.R.S.

After giving a short account of the descriptions of Malpighi and other writers respecting the minute structure of the liver, the author proceeds to state the results of his own investigations on this subject. The hepatic veins, together with the lobules which surround them, resemble in their arrangement the branches and leaves of a tree; the substance of the lobules being disposed around the minute branches of the veins like the parenchyma of a leaf around its fibres. The hepatic